

IN THE CLAIMS

Claim 24 has been amended.

1. (previously presented) A musical tone reproducing apparatus that is provided in a portable terminal apparatus having system storage means as a general-purpose memory for storing various data including a tone color parameter group and system control means for controlling the whole apparatus including said system storage means, and that carries out musical tone reproduction in cooperation with said system storage means and said system control means, the musical tone reproducing apparatus comprising:

a tone generator memory as a general-purpose memory in which is registered at least a tone color parameter group including a predetermined number of tone color parameters read out from said system storage means;

a cache memory into which are inputted tone color parameters from the registered tone color parameter group at a predetermined data width from said tone generator memory and from which are outputted the inputted tone color parameters at a data width larger than the predetermined data width;

a tone generator means for carrying out musical tone reproduction based on tone color parameters outputted from said cache memory; and

a tone generator control means for controlling the musical tone reproducing apparatus based on commands from said system control means,

wherein, based on a command for tone color parameter registration from said system control means, said tone generator control means carries out control such that predetermined addresses are given to the tone color parameters in the tone color

parameter group read out from said system storage means and the tone color parameters are stored in said tone generator memory, and based on a command from said system control means to change a tone color set in said tone generator means, said tone generator control means carries out control such that a tone color parameter for the tone color to be changed to is read out from said tone generator memory and is transferred to said cache memory, and the tone color parameter for the tone color to be changed to is transferred from said cache memory to said tone generator means.

2. (original) A musical tone reproducing apparatus as claimed in claim 1, wherein said system control means reads out each of the tone color parameters from said tone generator memory by specifying a leading address of the predetermined addresses given to the tone color parameters.

3. (original) A musical tone reproducing apparatus as claimed in claim 1, wherein said system control means writes into said system storage means and reads out from said system storage means leading addresses of the predetermined addresses given to the tone color parameters stored in said tone generator memory.

4. (original) A musical tone reproducing apparatus as claimed in claim 1, wherein said tone generator memory outputs to said cache memory at a data width smaller than one channel's worth of the tone color parameters.

5. (original) A musical tone reproducing apparatus as claimed in claim 1, wherein said cache memory outputs at least one channel's worth of the tone color parameters to said tone generator means at a time.

6. (original) A musical tone reproducing apparatus as claimed in claim 1, wherein said tone generator means carries out the musical tone reproduction based on

sequence data that has been converted into a predetermined format.

7. (original) A musical tone reproducing apparatus as claimed in claim 1, wherein said tone generator memory comprises a first tone generator memory and a second tone generator memory, and said tone generator control means determines whether a leading address contained in a command from said system control means is within said first tone generator memory or within said second tone generator memory, and reads out a tone color parameter corresponding to the leading address within said first tone generator memory or said second tone generator memory.

8. (previously presented) A musical tone reproducing apparatus as claimed in claim 7, wherein said first tone generator memory is a random access memory, and said second tone generator memory is a read only memory.

9. (original) A musical tone reproducing apparatus as claimed in claim 1, wherein the portable terminal apparatus has data receiving means for receiving external data, and data received by said data receiving means is stored in said system storage means.

10. (original) A portable terminal apparatus having a musical tone reproducing apparatus as claimed in claim 1, wherein said system control means carries out a portable terminal apparatus function process as a main process.

11. (previously presented) A musical tone reproducing apparatus that is provided in a portable terminal apparatus having a system controller for controlling the whole apparatus, and that carries out musical tone reproduction, the musical tone reproducing apparatus comprising:

a tone generator memory as a general-purpose memory in which is stored a tone

color parameter group comprising a predetermined number of tone color parameters;

a cache memory into which are inputted tone color parameters read out from said tone generator memory at a predetermined data width and from which are outputted the inputted tone color parameters at a data width larger than the predetermined data width;

a tone generator for carrying out musical tone reproduction based on tone color parameters outputted from said cache memory; and

a tone generator controlling device for controlling such that, based on a command from said system controller to change a tone color, a tone color parameter for a tone color to be changed to is read out from said tone generator memory and is transferred to said cache memory, and the tone color parameter for the tone color to be changed to is transferred from said cache memory to said tone generator.

12. (previously presented) The musical tone reproducing apparatus as claimed in claim 11, wherein said system controller reads out the tone color parameter from said tone generator memory by specifying a leading address given to the tone color parameter for the tone color to be changed.

13. (previously presented) A musical tone reproducing apparatus as claimed in claim 11, wherein said tone generator memory includes a memory into which data can be written and from which data can be read out.

14. (previously presented) The musical tone reproducing apparatus as claimed in claim 11, wherein said tone generator memory includes a read only memory.

15. (previously presented) The musical tone reproducing apparatus as claimed in claim 11, wherein said portable terminal apparatus includes a system storage device

that stores various kinds of data including the tone color parameter group, and the tone color parameter group is stored in said tone generator memory by writing the tone color parameter group read out from said system storage device based on a command from said system controller.

16. (previously presented) The musical tone reproducing apparatus as claimed in claim 11, wherein said system controller writes into said system storage device and reads out from said system storage device leading addresses given to tone color parameters stored in the tone generator memory.

17. (previously presented) The musical tone reproducing apparatus as claimed in claim 11, wherein said tone generator memory outputs the tone color parameters to said cache memory at a data width smaller than one channel's worth of tone color parameters.

18. (previously presented) The musical tone reproducing apparatus as claimed in claim 11, wherein said cache memory outputs at least one channel's worth of the tone color parameters to said tone generator at a time.

19. (previously presented) The musical tone reproducing apparatus as claimed in claim 11, wherein said tone generator carries out the musical tone reproduction based on sequence data that has been converted into a predetermined format.

20. (previously presented) The musical tone reproducing apparatus as claimed in claim 11, wherein said tone generator memory includes a first tone generator memory and a second tone generator memory, and said tone generator controlling device determines whether a leading address of the tone color parameter for the tone color to be changed to, contained in a command from said system controller to change

a tone color is within said first tone generator memory or within said second tone generator memory, and reads out the tone color parameter for the tone color to be changed to from said first tone generator memory or said second tone generator memory, based on the result of the determination.

21. (previously presented) The musical tone reproducing apparatus as claimed in claim 20, wherein said first tone generator is a random access memory, and said second tone generator memory is a read only memory.

22. (previously presented) The musical tone reproducing apparatus as claimed in claim 11, wherein the portable terminal apparatus has a receiver for receiving external data, and data received by said receiver is stored in said system storage device.

23. (previously presented) A portable terminal apparatus having a musical tone reproducing apparatus as claimed in claim 11, wherein said system controller carries out a portable terminal function process as a main process.

24. (currently amended) A method of controlling a musical tone reproducing apparatus that is provided in a portable terminal apparatus having a system controller, ~~and that carries out~~ to carry out musical tone reproduction, comprising the steps of:

reading out a tone color parameter for a tone color to be changed to from a tone generator memory based on a command from said system controller to change the tone color, said tone generator memory being a general-purpose memory in which is stored a tone color parameter group comprising a predetermined number of tone color parameters;

~~transferring~~ inputting the tone color parameter for the tone color to be changed to

read out from the tone generator memory to a cache memory, at a predetermined data width; [[and]]

outputting the tone color parameter for the tone color to be changed to from the cache memory at a data width larger than the predetermined data width;

~~a second~~ transferring ~~[[of]]~~ the tone color parameter for the tone color to be changed to that is outputted from the cache memory at the data width larger than the predetermined data width to a tone generator ~~that carries out musical tone reproduction; and~~

causing the tone generator to generate a musical tone based on the transferred tone color parameter.